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Correspondence from practical farmers, giving the results of their experience, is solicited. Letters should be signed with the writer's real name, in full, which will be printed or not, as the writer may wish.

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## Agricultural.

### THE OAT CROP.

There is not any grain that we believe to be as good a feed for all varieties of farm animals as the oat. There may be more fattening properties in the corn, and certainly if prices on the two grains were made in proportion to their nutritive value, we would always use the corn, wholly or in part, when fitting an animal for the slaughter. But under the same conditions of cost and value we would surely use the oats for growing animals. They contain more of the material for building up the framework of bone and muscle than does corn. They have more of a stimulative property, creating energy for work, and not less when they are to be used for breeding purposes, while they also stimulate milk production more than corn.

But as prices have been lately, the Eastern farmers have not felt that they could afford to pay the price asked for oats to use extensively as a food for milk cows, for breeding stock, or for growing young stock. And the Western or Northern growers have felt that oats were not a profitable crop to grow unless they could be sold at nearly the price of corn. In fact, since the use of the silo and the fodder shedder have become so common, there are many who say that after they allow for the value of the corn fodder, it does not cost more to produce a bushel of corn than it does to grow a bushel of oats.

One reason of the cost of growing oats is the great loss by the prevalence of the oat smut. The professors of the Wisconsin Agricultural College, who are in a very good position to know the amount of oats grown in that State yearly, and to estimate the loss by smut upon them, said that the loss last year in Wisconsin was about 20 per cent. of the whole crop, and amounted to at least 150,000 bushels. If one could have his crops increased twenty per cent. without investing any more money in the land, teams, tools, manure or labor, it would make a great difference in the profit of growing it.

The placing of 15,000,000 bushels more of oats upon the market in that State, beside the increase in many others where oats are grown, would have prevented the price going so high that Eastern farmers have been experimenting to see if they could not substitute a mixture of the waste products of the wheat and the corn, in place of the oats.

That this loss of sixteen thousand bushels of oats took place last year, when we really needed all the oats that could be grown, as we had a short crop, was the fault of the farmers, and not of the professors of the Agricultural College of the Experiment Station, for they have sent out each year for several years bulletins telling the growers how to treat their seed at very little expense or trouble to avoid the smut, or entirely prevent it, if the work is thoroughly done. These instructions were also published in nearly all the local papers that circulate in the farming districts, and yet Professor Henry says he does not think one farmer in five thousand treated his seed last spring in that State.

The spores of the smut do not live in the soil in the winter, but are preserved in the seed, and to show how they propagate when the seed is infected, Professor Moore sowed some seed oats, of which about two per cent. of the grains were smutted. The crop from this seed had about ten per cent. of smutted grain. This seed was sown, and the next crop had twenty per cent. smutted grains. This was sown and the third crop had increased from the first to thirty per cent., or nearly one-third of the crop was spoiled. At that rate of increase it would not take long to make the crop an unprofitable one at whatever price the oats might be sold.

A pound of formaldehyde costing forty cents, and put in fifty gallons of water, would treat many sacks of seed. Just put the oats in coarse burlap sacks and dip them in the water, letting them remain about twenty minutes to get the centre moistened, and every smut spore will be killed. It will do no harm if they stay in the water an hour, or they may be spread on the barn floor, [shoveled over, and partially dried before sowing them.

### Varieties of Cheese.

The amount of cheap cheese made and put on the market should not be judged by the skin and part skim milk cheeses. These latter are made for a distinct purpose, and there is a wide and part skim milk with a full knowledge that the results will be of a certain inferior character, and the cheese is

so marked when sent to market. The makers are satisfied if they get a few cents a pound.

But inferior cheese made from full cream milk and spoiled in the curing, keeping or some other way, is a direct loss to the maker. The trouble is something that should be averted by following carefully rules that have been discovered through years of study and experiment. There are, of course, many reasons why cheese does not come out satisfactory when good full-cream milk is used. Off flavor of cheese of this character is frequently due to lack of acid in the cheese or to hot curing rooms. In the trade such cheese has such a strong odor after being kept a short time that it is marked down heavily. The remedy is to see that the temperature of the curing-rooms is better regulated, and in preventing acidity. This latter is generally due to hastiness in making. When the cheese is made every other day too much starter is used, and the attempt to hurry the work causes the trouble.

other succulent and easily digested food until they improve in flesh, and then fatten as quickly as possible on corn meal and clover, with at least one feed a day of green food, ensilage or roots, and sell as soon as the butchers will name a fair price, even if only half fattened, as it is only a question of time, in most cases, when they will either lose their appetite or their digestive power, which has been toned up by the green food. We never knew a complete recovery from this trouble of imperfect digestion. If a temporary recovery is made, lasting long enough to fatten the animal, it is well.

If the indigestion proceeds from tuberculosis in lungs, or in the digestive organs, it is better to kill and bury or burn. Yet we are not as ready as many to charge every untimely or unprofitable cow with tuberculosis, and have small faith in the tuberculin test, unless it points out one that has other outward indications of the disease, and these are most frequently the ones on which

calling themselves worse names than we have called them.

### Live Stock Notes.

One of the essentials of success in fattening lambs for market is to keep them growing every day from birth. To do this requires the difficult art of feeding liberally without overfeeding to cause a loss of appetite. If they are taught to eat a little dry bran or a few oats while still running with the ewe, they can usually be trusted to eat as much as they wish without much danger of their overfeeding, but care must be taken that no wet and sour feed is left in their troughs, as that causes a scouring that takes off flesh rapidly. Corn meal may be mixed with the bran, or cracked corn with the oats in a small proportion, say one part in five, about a month before marketing, and gradually increased until they are eating all corn the last week. Another important matter is to sell when they are well

accepted by the slaughterer and packer.

Dr. A. S. Heath says in the Tribune Farmer that if all of the beef breeds were represented by a good steak or sirloin, one expert might prefer the Shorthorn, another the Hereford, some the Devon, and some the Angus, while one who had enjoyed a piece from a Red Polled might not be as well pleased with any other. But he goes farther than that in saying that few could tell what breed the animal was after partaking of a well-cooked steak or roast, nor could they detect if it came from a well-fattened cow or heifer of the Holstein, Swiss, Guernsey or Jersey breed, or a common grade, for age and quick fattening go a long way in turning grass and grain into mottled, tender and juicy beef. A lean animal of whatever breed, carefully handled, properly fed and quickly fattened, will make delicious meat.

The best bred steer, driven a long journey through poor pastures, hurriedly grazed by the way, put in a car and sent a long dis-

summer and 175 to 210 men in winter, all constantly at work keeping the roads free from water and the ditches open. The proposition which a highway commissioner must meet in the care of the roads of his town is exactly the same proposition that a railroad has to meet in the care of its road-bed.

In this climate, with the average fall of rain, one mile of road, three rods wide, receives during the year twenty-seven thousand tons of water poured upon it from the skies. Water is the greatest enemy roads have to contend with. The surface of a road is the same as the roof of a house; it is put there to shed water. The ditches on the side of the road are the same as the eaves to carry the water away.

The highway commissioner must be a man who can start in the spring of the year with a plow, opening the ditches on each side of the road. This in a town of sixty miles of highway gives him a furrow 120 miles long to be opened at the melting of the snow in order to take the water away from the surface of the road. This work must be followed as soon as the earth is dry enough to handle by his team and the road scraper. The road should be made wide enough for two teams to pass easily, and crowned to a sufficient height to throw the water easily to the ditches. Too high a crown produces ruts when the road is used. Too low a crown holds the water in the centre of the road; the most satisfactory crown calls for a rise of six inches in the centre of an eighteen-foot road. This will throw the water fast enough to keep the road from getting soft and does not expose the road to rutting.

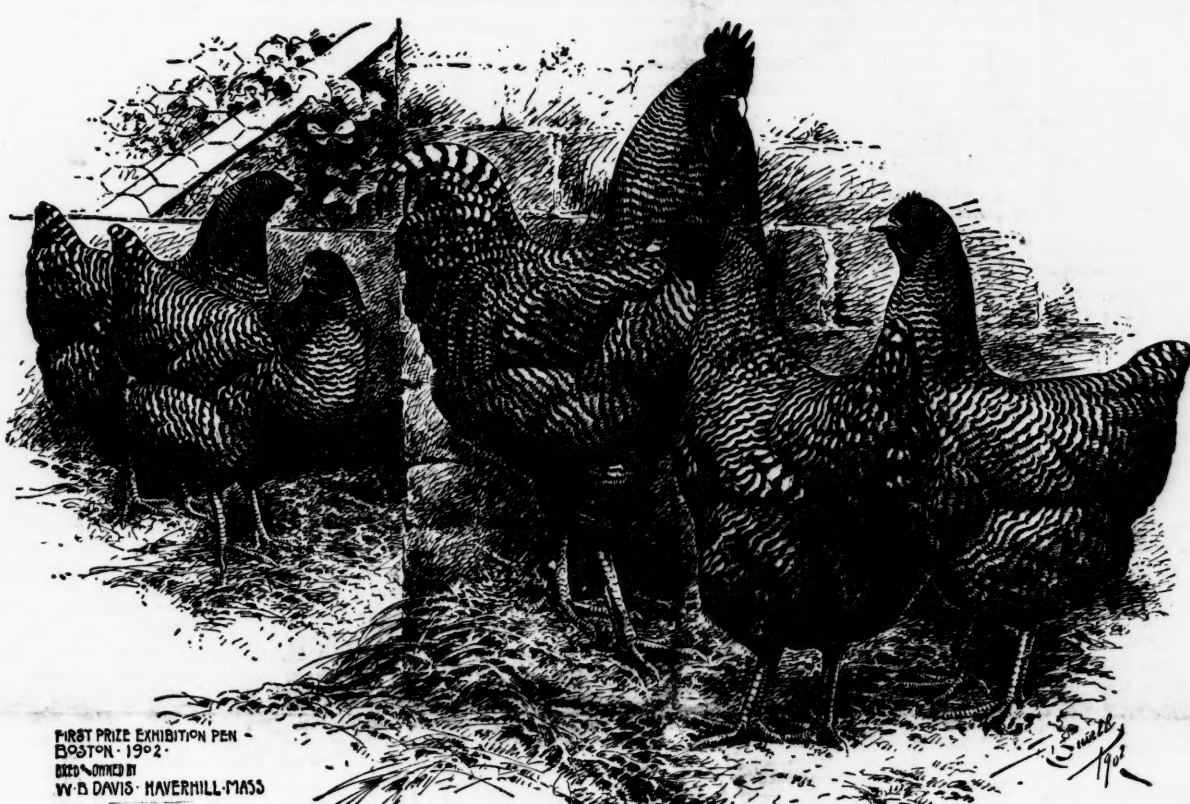
The sluices in each town should be numbered and a record kept of them and the dates when repairs are made on them. Wooden sluices should be done away with and iron sluices or tile sluices put in their place. The continued renewal of wooden sluices is a constant expense to the town, whereas the introduction of tile or iron sluices would soon provide the town with permanent sluicing, and very little expense would be incurred from year to year in their maintenance. The highway commissioner must see to it that the loose stones are removed from the highways at least once in thirty days, and that a prudent man does it oftener. The highway commissioner must be always ready to go to any part of his town to mend the road after a heavy rainstorm. He should always be on hand after a rainstorm to fill up the mudholes. In fact, a highway commissioner with sixty miles of road under his care, and with the care of the bridges and sluices, has got a continuous job from one end of the year to the other. Under the labor system he orders additional labor out to open the roads, which is an additional tax.

The highway commissioner should be an active, energetic man, capable of engaging and discharging men in his employ, capable of handling teams in the use of the road machines, capable of building a ditch so that he won't try to run water up hill, capable of figuring on masonry for culverts, capable, in fact, of handling any small contract, and able to lay out his work from year to year so that the roads can be constantly improved through the operation of a systematic plan of development. When you have a good highway commissioner never let him out of office. A man may be the best sort of a fellow, but not able to build roads. The same way, he can be the best sort of a fellow, but not able to build a barn. When you want a barn built you get a carpenter. When you want a road built you want a road builder.—Exchange.

### Sick Soil.

On highly cultivated farms there is often a good deal of trouble experienced in what might be called sick soil. Take for instance the acid soil. It is nothing more nor less than a condition which requires a little medicinal treatment in the form of treatment with lime. An acid soil will yield very poor crops, and sometimes produce nothing except sorrel and weeds. Sorrel in abundance is often an indication of acidity in the soil, but not always. Sometimes these weeds get such a start on a field that they crowd everything else out, and the farmer concludes that it is the acidity which causes the harm, while in reality it is the sorrel. One sure way to find out whether the soil is too acid is to purchase a piece of litmus paper at the drug store, and bury it in the soil over night. It is better to put several pieces in different parts of the field. Then if in the morning the blue litmus paper is pink in color, the soil is acid and needs lime treatment. The lime should be applied in light top-dressings, and if repeated every year until the soil loses its intense acidity, the crops will soon flourish thereon.

It is difficult to say what causes the acidity, but sometimes it is due to natural compositions of the soil, and again to the heavy feeding of the soil. Sick soil is more often found in market gardens where very heavy manuring is resorted to in order to produce two or three crops a year. Subsoils are frequently over-fed, and they get congested with more food than they can assimilate. One of the best remedies at such times is to cease manuring for a season, and simply dress with lime and cultivate the thoroughly and many times. By stirring up the soil we give the elements a chance to convert the food in the earth into some available form. Frequently sick soils are nothing else than soils too rich with food, and cultivation is what they require. The old idea was that soils got tired and needed to rest for a time, and farmers would let the fields lie fallow for a season. That is not necessary at all. The same can be accomplished by cultivating and not fertilizing. Dr. A. T. Monse, Pennsylvania.



PRIZE BREEDING PEN OF BLUE BARRED PLYMOUTH ROCKS.

Another difficulty in cheese making comes from using milk where turnips, rape and weeds are fed freely to the cows. Many of the best cheese makers refuse to accept milk from farmers who feed these articles to the cows. The cheese does not have the rich, clean flavor that the market demands, and sometimes the same trouble is experienced when made from dirty milk. The cowy flavor of milk will be noticeable in the cheese. Clean milk pails and pans, and clean cows and milkers are necessary for the manufacture of the best grade cheese. One cannot make fancy cheese from poor milk. Try ever so hard he will fail, and the best system of curing will not make up for the lack of fine milk at the start. Pastiness, poor flavor or some undesirable quality will develop from poor milk cheese. E. S. WARRENTON, Kansas.

### Dairy Notes.

Professor Farrington of the Wisconsin Dairy School says in a late report of the experiment station, that since the winter of 1898-99 they have been testing the practicality of putting cheese in one-pound tins. They make what is called the cheddar cheese, and place in rectangular moulds, which are placed on a carved board with the letters U. W. (University of Wisconsin) raised on it. They have no difficulty in curing them, as the larger cheddars are cured in the regular cheese-curing room at a temperature of 50° to 60°. We see no reason, excepting a little extra labor in curing, why this method should not become as popular as have the prints for butter. Many families do not like to have more than a pound or two of cheese at a time, as it often dries hard on the cut surface.

We have said much in the past about the good policy of keeping cows that are productive of milk for at least ten months in a year, and milk rich in butter fat, when it is to be made into butter or sold by the Babcock test. We believe they are the ones that usually make the profit for the dairymen, and often pay the board of other less productive cows. But there may be exceptions.

There are some that are very heavy feeders, especially after they have passed the prime of life, which in a good cow would place at eight years old. Very few should place at eight years old or milk increase in amount of butter fat or milk after that age, unless because of a radical change in feed, warmth of stables and general good care. Some are so unable to digest their food that they do not show the full benefits of good feeding. The dairymen should be able to detect these quickly if he uses the Babcock test. Others digest their food and assimilate it, but it goes more to the production of tallow than of milk or butter fat. His observation should tell him this. If he weighs the milk and knows the daily production. For this class the butcher will prove the best remedy as soon as they are fat enough for him to buy. For the first class there are two methods, and we will not say which is the best, to kill at once, and no longer give them feed for which they give no adequate return, or to lessen the grain, allowing good grass feed, and

tuberculin has no reactionary effect. But as the question of profit from a cow depends upon the relative cost of the food given and the milk produced, not in a week but a year, or from calf to calf again, every cow owner should know about what is fed and what is received. Other things being equal, liberal feeding is usually more profitable than scanty feeding, but there is a point where the food given may exceed the power of digestion if not the appetite. In fact, poor digestion is often accompanied by an always craving appetite.

The New York Produce Review comments on the scarcity of low grades of butter such as is used by bakers and confectioners. Low-grade creameries, imitation creameries and lardie packed are out of the market, while underpriced renovated and factory are taken as soon as received. There are some lots that are scarcely better than grease, and sometimes thrown away, that sell at twenty cents, but they are scarce and there is not enough at twenty-four to twenty-five cents to supply the demand, even for those who are willing to pay those prices. Many bakers were using creamery at 28 to 31 cents, and mixing one pound of it with two pounds of lard. This is the best news we have read for a long time, for we think good lard is more wholesome than poor butter. Since that was written prices have gone down very much on creamery and good dairy, but we are pleased to know that the scarcity of cheap grades continued in Boston and New York at last reports.

It used to be a saying of an old employer of ours, that "there are many kinds of fools." If so, the man who refused to buy grain last fall and winter because the price was too high, and has fed his cows on any rough fodder that he happened to grow, late-cut hay, poorly-cured corn stover, bog hay and straw, deserves to be put in one class at least, and not the lowest. His cows are now thin in flesh, and giving little if any milk; more probably they are dry two or three months earlier than they should be. He has had little milk or butter to sell while they were in demand at good prices, and it will take months of good pasture to bring them up to their usual condition of liberal milk flow, and next winter not even liberal feeding can keep them from wanting to go dry about as many months before calving as they have this year. The only way to handle cows so starved this winter is to feed liberally while in pasture, get what milk they will give, and fatten them for the butcher next fall, accepting thankfully what he will pay for cow beef. Then start anew and never make the same mistake a second time. Any one is liable to make one mistake.

But there are some who are worse off than this. Having fed out the rough fodder grown on the farm they have been buying hay, and if their judgment is not better than it was last fall they will be likely to buy a cheap timothy, but little better for milk cows than as much straw. We do not expect any of our readers are in this class, but if they are we do not think it necessary to offer any apologies, for they are probably

fitted. After any animal is well fattened no more gain can be made excepting at a cost of more than its value, and often they will actually shrink in weight during an extra week of feeding. No prospective increase of price will pay for this loss. If lambs are likely to sell better at any particular date, as July 4, or other holidays, have them fat at that time, but if they are ready two weeks earlier sell them, and let the dealers keep them in cold storage, where they will not eat or lose in flesh. Plan also to have the old ewes and the wethers ready in fall or early winter, when there is a good demand for them. While the lamb that fattens at an early age is usually the most profitable, there are some late lambs and some breeds that mature slowly that it may be better to keep simply growing through the fall and winter, and get fat enough to sell as yearlings after they have been shorn. If they produce six or eight pounds of wool at first shearing this will add to the profit.

After the lambs come select those ewes that do not bring good lambs or that do not have milk enough for them, to be fattened, only being cautious not to condemn one that fails simply because she is shedding teeth and cannot get food enough. Where this is the case, separate her from the others and give her a little bran with a handful of oil meal every day, and see if she and the lamb do not gain on it. If they do she may yet prove a good one.

In England they value artichokes highly for pig feeding. They are planted in rows thirty inches apart, and eighteen inches apart in the drill, cultivated the same as potatoes. The pigs are turned in to dig them for themselves when fully grown, and they grow rapidly, with a tendency to lean meat, owing, perhaps, to the exercise. They are not hurt by remaining in the ground over winter. A very moderate grain ration is given while they are on the artichokes. On good soil the crop is estimated to be from six hundred to one thousand bushels per acre.

The London Times tells of an aged Suffolk ewe which in the past seven years has dropped twenty lambs, having had three at each time for six years, and two this year. Out of these twenty there have been nineteen rams, and that they were not weaklings is shown by the fact that many of them were sold for breeding purposes, and one year three were sold at public auction at \$25 each. The Suffolk are noted for prolific breeding and for milking qualities, which enables them to raise good lambs.

The average weight of hogs sent to the market in the larger stock markets is a little heavier than the first of the year, but the April average is about twelve pounds a head less than in April last year. The cattle sent in will probably show even larger shrinkage than this, and where they are handled by the thousands and tens of thousands per day, it makes a large decrease in the amount of meat put upon the market. Stock growers of both cattle and hogs have not been trying to see how much corn they could turn into meat, but how little they could use and have their stock

tance by rail, then killed directly on arrival at the slaughter yard, will make only poor meat, scarcely fit for bologna sausage, and the meat of a worried, frightened animal is impaired in flavor, appearance and quality, and injured in keeping quality. The advantages of the pure bred breeds is in better feeding qualities, quicker fattening and a larger percentage of dressed weight to live weight, rather than in the better quality of beef, as to the feeder and the slaughterer rather than to the consumer.

Dr. C. D. Smead says in the National Stockman that in the Western States a man who brings a pure-bred animal for breeding purposes, and one that suits the people, is called a public benefactor, and if it is a male the neighbors hasten to patronize him, even if the service fee is more than they feel able to pay. But they desire to encourage all efforts to improve their animals or their poultry. In the Eastern States, he says, a man who pays a high price for a finely made pure-bred male to breed from is called a fool by his neighbors, and doubts are expressed to his sanity and his future financial condition. They will not patronize him unless they can do so as cheaply as they get the service of a mongrel or scrub male.

There is enough of the truth in this to make it sting a little, although there are exceptions to the rule, as doubtless there are to his rule of the hearty welcome and good patronage given pure-bred stock in the West. We would point to many herds of cattle, and to stock farms of horses that have been well patronized in the Eastern States, not only by service fees but by sales of young stock. Sheep and swine are in less demand here, pure bred or others, but we think well-bred poultry is better appreciated here than in the Western States.

### Aim in Road Building.

In road building the main object is to get the greatest length of the best road for the least money. The best road will have the location which will give the best drainage and the easiest grades, and will serve the most traffic. The best road will have the design and construction which will give a perfectly drained bed of dry earth, supporting a smooth and water-tight surface. This will enable it to shed water with least delay, to endure frost with least change, to carry traffic with least wear, to carry heavy loads with least effort, to carry light loads speedily and with least jolt. The best location and design of a road can only be made after a thorough survey and careful location by a civil engineer who has had experience in designing and building roads.

The man who has charge of the roads in a town is called a highway commissioner. What kind of a man should we have as highway commissioner? We want a man who is free to give his entire time to the care of the roads from one end of the year to the other. Each town has upward of sixty miles of highway to be taken care of. The New York Central Railroad, in the care of its four tracks between Albany and Utica, a distance of ninety-five miles, has one civil engineer, thirty-five section bosses, in charge of 290 to 320 men in



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## Poultry.

## Practical Poultry Points.

Hens are almost as near being foolish as human beings. If they are kept without eating an unusual length of time they will overeat, much to their injury, but most often the food is a soft mash, as they can usually pick whole grain through their mill gizzard in such a way that it does them no harm. The mash they cannot always choose when they have a full crop fast enough to prevent its fermenting, and either distending the crop or causing it to pass through the gizzard and intestines so as to cause a diarrhoea. Green food they usually eat all they desire without danger, but if they have been long without it they may eat it when it is wilted, or eat dry or frost-bitten grass, hay, chaff or other crop ground, and if long deprived of water, they will seize themselves with it to an injurious extent, eat snow or pick up bits of ice until entirely checks egg production, if it does not kill the fowl. If they do not have salt regularly in their food, they will eat enough of it to kill them, but when they have it every day in their food, they may be trusted to go to a heap of salt, and they will seldom make more than one pick at it. These facts emphasize the importance of feeding and watering at regular seasons, and if any circumstances prevent this from being done, exercising care that they do not eat or drink too much at one time.

In the April number of Farm Poultry is a letter from a man who claims to be keeping 1500 hens, and says that it has cost \$1.75 a year the past year to supply food for his hens, and he gets about ten dozen a year from each, which sell at an average of twenty cents a dozen. He thinks this is but poor pay for laboring nearly sixteen hours a day with them, excepting three intervals of fifteen minutes each for his meals, and for the capital invested in buildings, incubators, brooders, fowl, etc.

Now we have had the care of hens for more than fifty years, beginning at ten years old or less, and up to a few years ago, excepting the time we were in the army, when we could not raise chickens until after dark, and not often then. We have had Black Spanish, Brown and White Leghorns, White and Partridge Cochins, Light and Dark Brahmas and Barred Plymouth Rocks.

We had several times kept an account of the cost of food bought for them, and not since 1870 has it amounted to \$1 a year for an old fowl, and fifty cents for spring chickens kept until January, or thirty cents for those sold as broilers or roasting chickens, and we have sold both at \$1 each.

We also kept account of the eggs laid many times, and the record never went as low as ten dozen to a hen in the year, usually nearly or exceeding twelve dozen, although we usually put eggs under every hen that was broody up to Sept. 1. If she had raised a good litter of chickens earlier than that, we might keep her over as an incubator and brooder the next season, but sometimes we found such hens good layers in winter after they had been broken of the desire to hatch another litter. Then the next spring we set them again, and if another hen would take their chickens, made them hatch out two clutches, and when they became broody again they were killed. We never sold one of them as a spring chicken, but do not know what they were called after we sold them. We have had both Leghorn and Black Spanish prove good sitters and mothers, excepting that the black hens did not like white chickens, and the Leghorns did not like black chickens.

But to return to our report of the letter on "Farm Poultry." The writer classes in the food for poultry, cut bone, and cut clover at \$40 per ton or more if bought in small amounts. We desire to say that dried and ground beef scraps at \$35 a ton are much better for the health of the poultry and for egg production than cut bone, and one pound of it contains more nutrition than four to six pounds of the ground bone. It is always sweet, and never gives bowel troubles, and can be kept on hand for weeks. As for cut clover, it is a good food, but we do not think that sold at \$2 per hundred pounds is any better than the baled clover hay that we have been quoting at \$12 to \$12.50 a ton. We could then let them be covered from four to twenty-four hours, and we think the bale hay would prove the best, if it was a good sample.

Then he speaks of oats at 65 to 75 cents a bushel and wheat at \$1.50 a bushel. We think both are too high at these prices, and would use one part corn to two parts wheat bran while they remained so. Then he tells about the cost of potatoes, beets, turnips and cabbage. When we were growing these crops for the market, we did not think that what we used for the hens were of any especial value, while when we had to buy them we could get the roots at about ten cents a bushel, and unmerchantable cabbages at 25 to 50 cents per hundred by count, and the most we ever paid was \$1 a hundred, and that included payment for carting quite a distance, and helping us put them in the cellar.

But we think the greater difference between our accounts and those of the writer and some others we have seen would be found in the chicken account. We will undertake to hatch and grow chickens enough, even with the so called non-sitting breeds, after they are two years old, to sell for more money than it will cost to feed both hens and chickens. But we would not use the eggs of those small breeds for hatching, but only enough to keep our flock good, and with the Plymouth Rocks, Light Brahmas and probably the Wyandottes, we could expect the eggs to be all profit, and perhaps to get more profit than the value of the eggs. We speak doubtfully of the Wyandottes only because we never had but a few that we bought setting when the Plymouth Rocks would set, and they were good sitters and good mothers, but run with the chickens longer before returning to laying than any other breed we ever had, unless it might be some old mongrel fowl. Barred Plymouth Rocks set three or four weeks later would be laying again before the Wyandottes, and so often began before they stopped caring for their chickens. We never had any others excepting them and Black Spanish that.

## Poultry and Game.

Receipts of Northern and Eastern fresh poultry have been light. Some spring chickens have been brought in and are sold at 35 to 38 cents a pound for two-week birds, and one-pound birds sell at 50 to 70 cents a pair. Choice roasting chickens 1.25 to 1.50 a pound. Extra choice fowl 1.40 to 1.50 cents, and common to good 12 to 15 cents. Pigeons from \$1.25 to \$1.50 a dozen for choice and common to good 75 cents to \$1.25. Choice squabs \$2.25 to \$2.50. Western lead fowl in full supply, and very little demand for them. Fowl are 10 to 12 cents, old roosters 90 cents and turkeys 14 to 15 cents. The frozen stock

takes a wider range. Chickens 14 to 15 cents for choice and 11 to 12 cents for common. Broilers 16 to 17 cents for choice and 14 to 15 cents for common. Fowl 10 1/2 to 11 1/2 cents for choice, and 8 to 10 cents for common. Choice small turkeys scarce and firm at 18 to 19 cents, large and mixed weights 17 to 18 cents. Live poultry in light supply and choice Eastern or South Shore selling steadily. Some small lots of choice broilers have sold at 25 to 30 cents a pound, from 1 to 1 1/2 pounds each. Roosters are 8 to 10 cents a pound, and fowl 12 1/2 cents. There are some small capons in cold storage, and perhaps some game birds, but the demand is so small that it is not worth quoting them, though we think the range of prices does not change much.

## Care of Chickens.

There are a great many methods of feeding chickens. They are all the best, and no doubt they are all worthy of consideration. I speak more particularly of brooder chickens, as they are what my experience has been largely with, although we raise, late in the season, a good many with hens, but prefer the brooder to the hen, as the brooder does not devour half the choice bits that I want my chickens to have. I have tried in the live birds less weight of food than a matter of experiment, for the best results, and have settled down to the one I get the best results from, with the least amount of labor. One of the mistakes that is made is feeding too soon after hatching. Nature has provided the chick with a good square meal before coming out of the shell, and it is not best to force digestion by placing food before them until that has been well digested. I do not feed for thirty-six hours after hatching, and our breeder recommends not feeding for seventy-two hours, and says he gets stronger and more vigorous chickens. Feeding too soon is apt to produce bowel trouble and indigestion, and we all know that have tried it that a chicken that is not well started is not worth raising; they never grow well.

As soon as they are taken from the incubator, I provide them with a dish of drinking water and coarse sand to scratch and pick at. The first meal that is served up to them is the infertile eggs that have been taken from the incubator, boiled hard and broken up shell and all. How they do enjoy them! Don't feed them quite all they will eat, keep them so they will be glad to see each time you call around. It is a little more trouble to feed little and often, but I assure you the results are enough better to pay for the trouble. The next feed consists of hard-boiled eggs with a few bread-crumbs, then a dish of bread and milk, which they are very fond of. Change the diet as often as you can; it is necessary to keep the appetite good for rapid growth.

At no time overfeed. For the first ten days it is well to feed five or six times a day, gradually reducing the times until they are gotten on to three meals a day.

It is necessary to keep them busy to have good healthy, growing chickens, and, of course, they must have some inducement to scratch. When small I put millet seed in the litter, and how their little legs will go to get it out!

At the end of a week or ten days of baby feeding, I commence the feeding of mash and grains. I make a mash of wheat bran, perhaps two-thirds bran mixed with one-third Indian meal and middlings with the addition of beef scraps or animal meal, and once or twice a week the addition of a little bone meal. I gradually increase the amount of beef scraps until I use about one-third meal in their mash, which I always give once a day. As the chickens grow older the addition of ground oats is used in the mash, if broilers are wanted. More Indian meal will be better. The mash is mixed with boiling water or milk, some times one and sometimes the other, as dry as can be with the addition of a little salt. After four weeks old I do not intend to feed mash but once a day, usually in the morning, yet it is well to change the time of feeding, as they enjoy not knowing what is to come next. For grain I feed chicken corn, cracked, or whole wheat, and some kind of green food every day, either lettuce or cabbage, or green grass if they cannot get it for themselves, and at all times keep plenty of fresh water and chicken grit by them, also charcoal. If it can be had, don't fail to give them plenty of milk, as it is of the greatest value in growing chickens. It is not well to feed whole oats to chickens unless the hulls be taken off, as the hulls will stick in the crop and cause death. Yet I value them greatly for growing them.

As I have said before, don't at any time overfeed, it will bring trouble with it; but, on the other hand, no good results can be won by coming from not feeding enough. The chickens must be kept growing if there is to be profit in them.

Don't neglect to feed meat in some form either to your broilers or broilers; it is of the greatest importance. For pullets it is indispensable to early laying. I once asked a lady of my acquaintance who has more than ordinary success with poultry, how she managed to have her pullets lay so much better and earlier, and why she could get a cent or two more for her dressed fowl than any one else. Her answer was: "I feed meat from the cradle to the grave."

I had five Plymouth Rock pullets hatched on the 15th of April. Two commenced to lay the first week in September, the other three the last week in September, and, strange as it may seem, those pullets have laid all winter and are laying now. They have only stopped laying a week or ten days after laying out their litter, and much of the time have laid every day. I do not attribute their ability to lay to a "laying strain," but to the manner of their feed from the time they were hatched. They did not have "farm range" either.

Meat is of equal value in the broiler business, as more flesh, at less expense, can be produced by the use of meat. Allow me to read from Bulletin 79 from the Maine State College Experiment Station, from experiments made the past season, in regard to the feeding of meat for fattening chickens:

The use of meat meal in chicken fattening: Late in the season forty chickens that were 160 days old, and averaged in weight a little over five pounds each, were divided into ten lots. Each lot of four birds was put into a small fattening coop and fed for twenty-eight days. These coops one to five, constituting group 1, were fed a mixture of one hundred pounds of corn meal, one hundred pounds of wheat middlings, and fifty pounds of meat meal. Twice daily, as needed for use, porridge was made from this mixture with cold water. Those in coops 6 to 10, constituting group 2, were fed on porridge made from equal quantities of corn meal and wheat middlings. The porridge was also made with cold water.

The average increase in weight of each of the twenty birds fed without meat meal was 72 pounds, and the average increase of those fed with meat meal was 92 pounds. Where



OLD ENGLISH SHEEPDOG, "YORKSHIRE SQUIRE."  
Owned by Howard Gould, New York.

no meat meal was fed 12.07 pounds of dry meal produced a similar gain.

This indicates that where one-fifth of the food used was meat meal a pound of gain about one-fifth less weight of food than where no meat meal was used. The mixture containing the meat meal cost 1.15 cents per pound, while the mixture without meat meal cost one cent per pound. Where meat meal was fed a pound of live weight of chicken was made at a cost of 13.88 cents. Where no meat meal was used a pound of gain cost 14.90 cents.

These tests were made with birds that were advanced in age and growth, and the gains were slow and expensive. In other feeding tests that we have made with chickens that were from one hundred to 130 days old, the gains have been much greater, and the costs per pound as small as five to eight cents, when the meal used was reckoned at the same price per pound as in this test.

I give plenty of exercise, but I do not consider farm range as necessary to success with poultry. It is nice, one can raise an unlimited number, and the inconvenience of limited space is obviated, and without doubt it is a care and expense, as they will supply themselves with half their living, and many of the things one would have to give in small quantities, but I believe the person with limited space can produce as good chickens as the person with the "farm range," but not so many, nor with so little care. To convince myself of the fact, last season I split a flock of chickens, and sent half of them into the country for their health; the others I cared for in my own way, and when the fall round-up came, my chickens were the better. I know they had the best of care, all the range they wanted, plenty of milk, water and grain to go to when they wished. I tell you what I do think, from experience: it is not the "farm range" that is the secret of the supreme results, it is small flocks. There are a few things absolutely necessary for good results: First, cleanliness, shade and the avoidance of lice. Lice seem to go in the air; in hot weather it is necessary to dust with powder as often as once a week to keep away lice, and the coops must be cleaned often, as lice will breed in a night.

While many of you no doubt grow chickens with just as good or better results, I have tried to get the best results at the least labor. I have tried many ways, and have found the making and baking of cake, and many other things that chickens enjoy, but not necessary to their welfare, but that patience, care, and never neglect of details, and more than all the rest, a liking for chickens is necessary for success.—Correspondent Lewiston Journal.

## White Leghorn Eggs.

In almost all the large city markets White Leghorn fresh eggs are given the preference, and they command a cent or more a dozen in all of the highest class trade. It may be folly to attempt to prove that the eggs have any superior qualities to those laid by other breeds, beyond the fact that they are large, white and attractive in appearance; but it is not necessary for the grower to demonstrate any such fact. All that is required of him is to know that people will pay more for such eggs.

The other fact that the White Leghorns are excellent layers, beating all other breeds when properly fed and cared for, should be sufficient to make these birds the standard for all farms where eggs are the chief end in view. The accusation that the White Leghorns are only good layers in warm weather, and of little value for cold weather when eggs are the highest, has something of truth in it, but it would be difficult to prove that any breed selects winter as a special time for laying.

It is possible, however, to train almost any breed to compromise a little, and do more laying in cold weather than they naturally do. Likewise it is possible to get much better results from the White Leghorns in winter by giving them good winter quarters, plenty of the right kind of food and everything that makes them comfortable. One reason why they do not lay so well in winter is that they are a thin feathered breed and they feel the first cold weather more than most chickens. Consequently they should have their winter quarters prepared for them very early, even by the middle of October, and if housed then in warm quarters their laying will not be checked so soon.

The temperature of the winter quarters for the Leghorns should never be allowed to drop below 40°, and 10° to 20° above this will suit them better. If this even temperature is maintained, and the proper food given, their supply of winter eggs will be greatly increased. They are very active birds, and they cannot be confined in close quarters, where little chance for exercise is afforded them. They need their daily exercise, and their warm food in the morning, and nature will do the rest.

ANNIE C. WEBSTER.

Pennsylvania.

—Bradstreet's weekly export statement: Wheat, counted as wheat, 3,202,240 bushels; same last week, 5,208,135 bushels; this week last year, 4,178,852 bushels; since July 1, 2,219,162,062 bushels; same period last year, 179,805,609 bushels. Exports of corn, 126,755 bushels; same last week 128,679 bushels; this week last year, 1,583,831 bushels; since July 1, 28,655,619 bushels; same period last year, 157,017,542 bushels.

## Horticultural.

## The Best Fruits for Planting.

There seems to be a call for information concerning the varieties of fruits to plant in various sections of the country. This is as sure to be the case each year as the seasons for planting come around. What to plant depends very largely upon where the work is to be done. The success or failure of the different varieties, no matter how good they may be in one section, is no sure indication that they will do equally well elsewhere. But there are some varieties that seem to be almost universal in their adaptability to the different sections of the United States and Canada.

Beginning with the North, there is a territory, including the colder parts of Maine, Vermont, New Hampshire, Canada, the northern peninsula of Michigan, and all the northern region between the Great Lakes and the Rocky Mountains as far south as Central Iowa and Nebraska, which we will designate as district No. 1. Among the best of the apples that have been well tested there are Tetofsky, Oldenburg, Wealthy, Longfield, Patten, Wolf River, McMahon and Peerless. These are all varieties which have passed through many severe winters with little injury in Minnesota, Wisconsin and northern Vermont. In some places as far north as the vicinity of Lake Winnipeg, some kinds of crab apples have done fairly well. Among the best of these are: Virginia, Whitney, Martha and Briar Sweet.

Of peaches, the Besseminianka is considered the hardiest; and among cherries the Ostheim. The greater part of the New England States, New York, northern Pennsylvania and Michigan may be classed together, and form district No. 2. This comprises some of the greatest fruit sections of the whole country. Here is where the Baldwin apple is raised to its greatest perfection, and the same is true of the Rhode Island Greening, Northern Spy and many other of the old standard winter apples. Hubbardston is an old one and yet a most excellent apple in quality, besides being of good size and the tree a good bearer. Sutton is another red apple of about the size of Baldwin, and better in quality. It is a good bearer and a good keeper, too. York Imperial is a third candidate for the place of Baldwin. It has been tested but little so far north as New York, but all indications point to success.

As a list for family use, there should be many kinds and but few of each. If one will select a very few trees each of the following kinds, and take good care of them, they will never regret it: Early Harvest, Fanny, Golden Sweet, Maiden Blush, Chenango, Primate, Grimes Golden, Gravenstein, Hubbardston, Esopus (Spitzenberg), Talmay, Northern Spy and Wagener. About two each of the first ten kinds will be enough with the bulk of the number of the later kinds. They are arranged in order of ripening.

Pears do remarkably well over this entire district. The Kieffer has been and is yet being planted largely all over the country. Good pears will always be in demand. The Bartlett will always sell. So will the Anjou, Bosc and Lawrence. For family use a good selection is as follows: Wilder, Early, Tyson, Howell, Clapp, Bartlett, Seckel, Sheldon, Bosc, Winter Nelis and Lawrence.

In some parts of Massachusetts, Connecticut, New York, Pennsylvania and Michigan the peach does exceedingly well. The loss of a crop now and then should not discourage one from planting. It gives the trees a rest. The Elberta has been planted the most extensively of any kind, and is yet one of the best either for market or home demand. Other good kinds are, Mountain Rose, Oldmixon, Fitzgerald, H. H. Chilli and Salway. A list for home use should be somewhat longer, but include all these varieties.

Plums do finely in most of this district. The European kinds are the most successful there of any where east of the Rocky Mountains. Grand Duke, Fellenburg (same as German Prune) and Lombard are among the best. The Japanese kinds all do well also. Burbank, Wickson, Abundance and Red June are good and well tested. The American kinds will grow over this region, too.

The sweet cherries flourish in most of this district. May Duke, Tartarian, Napoleon, Windsor and Hortense are good ones. The sour class also does well. Early Richmond, Montmorency and English Morello are the best of these.

The quince is planted in large orchards in some parts, especially in New York and northern New Jersey. Orange, Bourgeat and Champion will supply all wants from early to late. The Bourgeat is perhaps the most promising of them at the present time.—H. E. Van Deman, in Green's Fruit Grower.

## VEGETABLES IN BOSTON MARKET.

Southern and hothouse products are generally in good supply, with a fair demand for vegetables of all kinds. Old beets are held high at \$2 to \$2.50 a box, and new Florida at \$1 to \$1.25 a dozen. Carrots are held at \$1.25 a bushel, and new at \$6 to \$7 per hundred bunches. Parsnips in but small demand at 70 cents a box, flat turnips 30 to 60 cents, and yellow 31 to \$1.15 a barrel. Some native onions offered yet at \$1.50 a bushel, and new bunches \$2 per hundred. Bermuda are \$1.65 a crate and Egypt-

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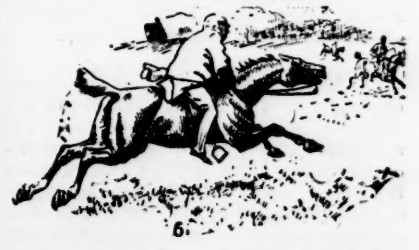
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birds are as persistent destroyers of our most troublesome insect pests as the quail, while they do not damage crops as much as chickens. We hate an English sparrow, and do not like a crow, or a hawk, because they are all destructive of our smaller native birds, but we never would kill an insect-eating bird, even for food, nor allow any one else to do so on the land we controlled, excepting domestic birds that are bred for that purpose.

**THOROUGHBRED** half Leghorn Cockerels \$2. V. M. BROWN, Ramsey, N. J.

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## Commonwealth of Massachusetts.

MIDDLESEX, ss.

PROBATE COURT.

To the heirs-at-law, next of kin, creditors and all other persons interested in the estate of ELLIOTT DIER, late of the County of Middlesex, in said County, deceased, intestate.

Whereas, a petition has been presented to the said Court, to grant a letter of administration with the will annexed to said deceased to Michael W. Dier, of Cambridge, in the County of Middlesex, without giving a surety on his bond.

And whereas, the said Court has appointed the said Michael W. Dier, to be held at Cambridge, in said County of Middlesex, on the third day of June, A. D. 1892, at nine o'clock, in the forenoon, to show cause, if any you have, why the same should not be granted.

And the petitioner is hereby directed to give notice thereof, by publishing this citation once in each week, in some newspaper published in the MIDDLESEX FREE PRESS, a newspaper published in said County, for at least one day, at least, before said Court.

Witness my hand and the Seal of said Court, this First day of June, in the year of our Lord, one thousand nine hundred and

A vertical strip of a book's endpaper, showing a repeating pattern of small, stylized figures or motifs. The pattern is printed in a dark ink on a light background. The strip is narrow and runs vertically along the right edge of the page.











## The Horse.

## Rysdyk's Hambletonian.

As a general rule it is not profitable to use crippled or defective mares for brood purposes. There are, however, exceptions to this, as to most other rules. Some of the most noted trotting-bred animals of their day were produced by mares that had been pretty well used up by hard service before they were put to breeding.

In 1835, as stated by H. T. Helm, in "American Trotting Horses and Roadsters," the proprietor of Woodburn Farm, Kentucky, had some undesirable horse stock which he wanted to sell. Some of the animals were halt and some were blind.

"He took the lot to Lexington, Ky., on one of the so-called county court days and offered them at auction. He succeeded in selling part of them, but one blind mare, by Manbrine Chief, failed to draw a single bid. She was with foal by Alexander's Norman. He offered her for \$100, but no takers. Finally he induced his auctioneer to give that sum for her, and she went at that figure. During the following winter the auctioneer found her heavy on his hands. He wanted to move elsewhere, and one of his difficulties was the disposal of this blind mare. He finally succeeded in getting her off on Mr. Andrew Steel for \$125." The following spring this blind mare produced a black colt that was a born trotter. This colt took a record of 2.31 under the name of Blackwood as a three-year-old, which was the world's record for three-year-olds at that time, and he was soon afterwards sold for \$30,000.

A daughter of Seely's American Star got injured and was crippled for life. She was then mated several times with Rysdyk's Hambletonian, and among the foals that she produced by him was the renowned world's champion trotter Dexter (2:17) and his full brother Dictator, that got Director (2:17), sire of the ex-champion trotting stallion Directum (2:04), etc.

In 1851 there was a bay mare at Warwick, N. Y., about 15.1 hands high, that had received so severe an injury to an ankle as to make her a confirmed cripple. She was known as Katy Darling. It was claimed that she was a Roman, a son of imported Roman, and the claim has never been disproved.

The injury rendered her useless for ordinary purposes, and she was mated with Rysdyk's Hambletonian when she was two years old. The next year she produced Alexander's Abdallah, that, opportunities considered, proved one of the best sons of Rysdyk's Hambletonian as a perpetuator of the trotting instinct.

John B. Decker of Deekertown, N. J., once owned an old bay mare that would have been a good animal in her prime had she not suffered so from a quarter that she could not stand road work longer than about two months at a time. She then had to be sent to the country and stand in wet clay until her feet became free from soreness. She was then used for road work again for a few weeks, and so alternated between the road and the box of clay.

After she got somewhat along in years she was used for a time as a common hack, and when unit for that she was finally used for brood purposes. Her sire, it is said, was old Abdallah, and her dam was a thoroughbred that had been a four-mile-heat race winner.

After raising four foals by other horses, Mr. Decker had her mated, in 1856, with a young horse then known as Edsall's Hambletonian, now generally known as Alexander's Abdallah. The following year this old, crippled mare produced a filly, which was a born trotter, but was so high strung and willful that she was not fairly broken to harness until she was eight years old, but when she was seventeen years old, under the name of Goldsmith Maid, she lowered the world's trotting record to 2:14. She was the most remarkable trotter that the world ever has seen or ever will produce. Her dam was a cripple, and so was the dam of her sire. So, too, was the dam of her sire's sire.

In 1844 the late Jonas Seely bought an old crippled mare with a foal at foot from a Mr. Charles Kent, paying \$135 for the mare and her foal. This mare was by the Norfolk trotter, imported from England. Her dam was known as One Eye. She had two eyes when foaled, but like many other good horses, she had a very strong will. One day a groom attempted to subdue her by harsh means. When he got through with her she had lost an eye, but had just as much will left as when the fracas began.

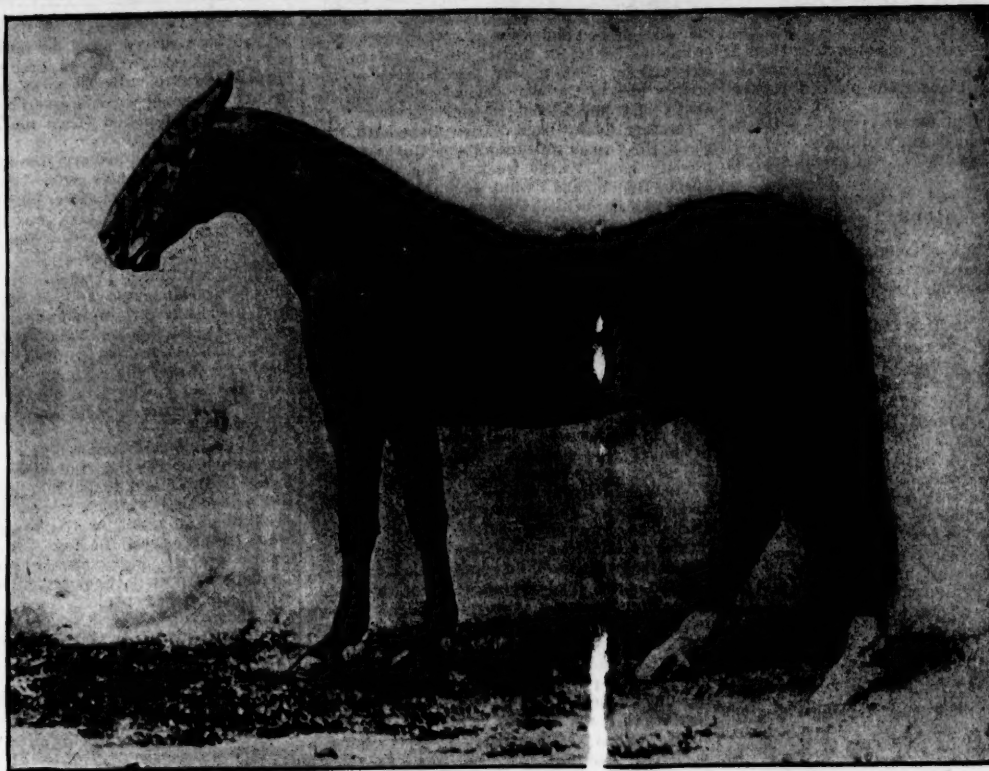
Her sire was Bishop's Hambletonian, and he was by imported Messenger, out of Pheasant, a thoroughbred daughter of imported Shuck, a son of Marske, sire of the invincible English Eclipse. The dam of One Eye was a brown mare with white hairs in her tail, known as Silvertail. She was used under the saddle, and was frequently ridden by her owner one hundred miles in a day.

The dam of Silvertail was called Jin Black. She was brown in color with a bald face and two white feet. She was a powerful animal, very spirited, and at one time so balky that her owner, a Mr. Deaumont, could not make her work. Deaumont sold or traded her to a Mr. Seely. Under Mr. Seely's treatment she became kind in every way, but was so powerful that her owner had to get an extra strong set of iron traces made for her. It has been vaguely intimated that Jin Black was a pacer. We would like to know what grounds there were for such an intimation. She and her descendants were noted for large limbs and joints that were as clean as the best of thoroughbreds.

Such were the ancestors of this old crippled mare now known as the Charles Kent mare, that with a foal at foot cost Mr. Jonas Seely \$135 in 1844. She was a valuable animal, however, before she was crippled by hard usage. She was sold as a three-year-old for \$300, and that was then almost a fabulous price for a filly of that age. The purchaser was a Mr. Peter Seely, and he sold her to a Mr. Ebenezer Pray for \$400. Mr. Pray sold her to a Mr. Chivers for \$500, and a New York banker paid Mr. Chivers \$8000 for her.

It was while owned by this banker that she became lame and unfit for road use. Before she met with this misfortune she could trot a mile close to 2:40. Mr. Jonas Seely, who bought her with her foal, raised two fillies from her, and then in 1848 mated her with old Abdallah. The next spring she had a bay colt, and Mr. Seely sold her, also the colt at foot, to a young man named William Rysdyk, for \$125. Mr. Rysdyk was then a common laborer, but that colt, now known as Rysdyk's Hambletonian, whose likeness appears on another page of this paper, earned him a moderate fortune, in fact, made him rich for those days.

Rysdyk's Hambletonian was a bay in color with black points, a star in the forehead and two white socks behind. He stood about 15.13 hands high at the withers, and two inches higher at the hips. His head was large and bony, his muzzle a trifle



RYSDYK'S HAMBLETONIAN, FOUNDER OF THE HAMBLETONIAN TROTTER FAMILY.

coarse, the profile of his face somewhat on the Roman order, and his ears quite large. He had a full, intelligent eye, and a forehead that indicated large brain capacity. His neck was only of medium length, fairly clean at the jaw, and well set upon oblique and strongly muscled shoulders. His nostrils and windpipe were large, indicating good lung capacity.

His withers were low and heavily muscled, making them somewhat thick and round instead of sharp. His barrel was long and as round as a log. He had a good back and coupling, long, smoothly rounded hips, a straight croup, tail set high, powerfully muscled quarters, strong gaskins and clean, sound joints and limbs. Though his hind legs did not drop straight from the hock to the ground, they were not of the sickle conformation. He had a beautiful glossy coat, and his muscle was of the compact, fine-grained quality.

Rysdyk's Hambletonian was a natural, square-gaited trotter. He was handled some as a three-year-old, and it is stated upon good authority that he trotted a mile that fall in 2:48. A horseman of large experience and good judgment, who knew the horse well and had ridden after him, has stated that he could, and in his judgment, did, show a 2:40 gait hitched to road wagon. It matters little whether he was a fast trotter himself or not. He certainly surpassed all the other stallions of his day as a progenitor of trotting prodigies. It is doubtful if any other stallion ever lived that did so large a stud service and left so numerous a progeny as Rysdyk's Hambletonian.

The following table shows the amount of patronage that he received each year of his life, the percentage of foals, the total number of foals and price received each year of his life, beginning in his two-year-old form:

Years.	Mares covered.	Per cent. of foals.	Foals dropped.	Service fee.
1853	17	75	13	\$25
1854	14	78	11	25
1855	10	82	8	25
1856	89	72	64	35
1857	87	73	64	35
1858	87	72	63	35
1859	72	75	54	35
1860	95	70	66	35
1861	106	68	72	35
1862	98	69	68	35
1863	156	70	111	35
1864	140	61	85	35
1865	217	67	145	100
1866	193	67	129	100
1867	105	71	75	200
1868	72	58	42	500
1869	60	81	49	500
1870	22	72	16	500
1871	20	80	16	500
1872	30	80	24	500
1873	31	65	20	500
1874	32	75	24	500
1875	24	8	2	500

The total number of foals that he got was 1333, and forty of them took race records in standard time. Not less than 151 of his sons have produced 110 trotters, with records from 2:05 to 2:30, and several pacers with records of 2:25 or better. His daughters have also produced 122 stallions that have sired 2:30 speed.

Several of his sons have proved far more successful than himself, as perpetuators of trotting instinct or the inclination to stick to the trotting gait.

Following is a list of his sons that have sired 2:05 or more with standard records, also the breeding of their dams:

Electoneer, b. h. foaled 1868; dam, Green Mountain Maid, by Harry Clay (2:29); second dam, Shanghai Mary, supposed to be by Iron's Cadmus.	167
Happy Medium, b. h. foaled 1863; dam, Princess (2:30); by Andrus's Hambletonian; second dam, Wilcox Mare, by Burke's Engineer.	96
Strathmore, b. h. foaled 1866; dam, Lady Westermire, by North American; second dam by Harris's Hambletonian.	94
Robert, b. h. foaled 1870; dam, Campbell, by Messenger Duroc; second dam, Miss McLeod, by Holbert Colt, son of Hambletonian.	87
George Wilkes, b. h. foaled 1866; dam, Dot Sparker, by Henry Clay; second dam, Telegraph, by Baker's Highlander.	81
Dictator, b. h. foaled 1868; dam, Clara, by Seely's American Star; second dam, McKinstry Mare.	69
Aberdeen, b. h. foaled 1866; dam, Widow Macchree (2:29); by Seely's American Star; second dam, Buryea Mare, by Fintler's Bolivar.	50
Sweepstakes, b. h. foaled 1867; dam, Emma America, by Seely's American Star; second dam by Rediker's Alexander W.	43
Dauntless, b. h. foaled 1867; dam, Sally Feagles, by Smith's Clay, son of Neave's Cassius M. Clay Jr.	42
Volunteer, b. h. foaled 1864; dam, Lady Patriot, by Young Patriot; second dam, Hulce Mare.	35
Victor Blomox, b. h. foaled 1867; dam, Hattie Wood, by Harry Clay (2:29); second dam, Grandmother, by Terror.	33
General Stanton, b. h. foaled 1866; dam, One Eyed Kentucky Hunter; second dam by Long Island Black Hawk.	32
Jay Gould, b. h. foaled 1864; dam, Lady Sanford, by Seely's American Star; second dam, Old Sorrel, by Exton Eclipse.	31
Masterstroke, b. h. foaled 1868; dam, Lady Irwin, by Seely's American Star; second dam by Abdallah.	28
Hambletonian, b. h. foaled 1866; dam, Nelly Cammeyer, by Cassius M. Clay; second dam by Chancellor.	25

## Veterinary Department.

## Questions and Answers.

Adams: Can a bone spavin on a two-year-old colt be cured? What remedy do you recommend, and how long will it take to effect a complete cure?

Answer: If you are confident that your colt has a bone spavin we would suggest that he be lightly fisted with the pointed iron, followed by a couple of good blisters. As the spavin is undoubtedly of congenital origin, it will require very active treatment to effect a cure, which you ought to be able to do at his age. Recent spavin, resulting from an injury, when the deposit is chiefly plastic material, can be absorbed by blistering alone, but if the spavin is large and very hard it will have to be fisted. As to the time, from one month to three, according to the amount of trouble you have to combat.

F. H. S.: I have a very nice mare, sound in every way except that she has mule feet, that is, I mean to say her feet are smaller at the shoe than at the

coronet. Please tell me the best way to shoe such feet.

Answer: I would suggest that you remove her shoes and put on both feet a full inch of soft-soled shoe, then put on a pair of Mackey springs and apply them according to directions. This will open up the heels and enlarge the circulation of blood to the remote parts of the foot. Then procure some good hoof oil, rub it on the sole and the sides of the foot, and let her wear wet swabs around the feet at night. Persist in this treatment and time will alter the structure of the feet.

F. G. B.: Kindly prescribe for the following. On Jan. 10, while driving a mare over icy roads, she made a misstep and fell, a king on her knees and punctured one slightly. She did not favor same much at first, but grew worse. Finally I called in a veterinary surgeon who ordered her in a sling and treated her with two weeks without improvement. About that time she broke the sling in some manner and got cast in her stall as they had her hanging up in same. She pounded herself very badly and especially the sore knee. She was again put in a sling, and remained in same seven weeks more. There are no bones broken, as she can bend the knee joint freely yet it is somewhat enlarged. The greatest difficulty exists in a contraction of cords. When she walks she strikes on the toe and will scarcely touch the heel with cold water and bandaged, and have used some Currier, yet she does not seem to improve. Is it proper to lead her some for exercise? Any suggestions you may offer will be greatly appreciated.

Answer: To remove the pain and soreness at the front of knee, also to regain the tone of the muscles of the shoulder, etc., repeated blisterings with the best liquid blister to be obtained, all round the knee and to the parts above. This must be repeated once in three weeks, until you can see a perceptible change for the better. It should have been done long before. She must be turned out on the ground, where she can roam at will. If a treatment is not carried out, she will have to be killed.

Patron: What shall I do for a green horse from the West that I am working that has a white, milky substance covering his eyes. It does not make him blind, but I fear that it may develop into that. He is working every day, and gaining in flesh.

Answer: The trouble that you refer to is inflammation of both eyes from some constitutional disturbance, owing to the presence of a specific poison in his system. Try the following treatment: Bathe both eyes very carefully with some croton solution, sixty drops to a pint of soft water, two or three times a day, and cover his eyes with a clean strip of dark cloth to protect them from the sun and dust. Give him internally two drams of iodine potassium in his drinking water once a day until you see a change for the better.

G. A. W.: Last fall my two work horses had the distemper, which left them with a cough that has developed into a slight touch of the heaves. Kindly advise some remedy.

Answer: With care in feeding and medicinal treatment this trouble can be obviated. Their hay and grain must be slightly dampened with water dealt out very sparingly during the day, but plentifully at night, and give them the following mixture in bran and oats: Powdered bicarb. soda, ginger, charcoal and coriander seed, of each one-half pound; capsicum, three ounces. Mix, and give a tablespoonful three times a day.

J. M., Iowa: I have a seven-year-old stallion that is a fairly sure foal getter, averaging about 75 per cent., but very slow to serve and indifferent to some mares. Last year at this time he shed his hair in small patches, about the size of a dime, on his left shoulder and side. It did not come in again. This year he is shedding it the same way, but on different parts of his body. He feels good, and seems all right, excepting for this. He ran in a paddock and stall all winter; was fed six quarts of oats and two quarts of bran per day up to April 1, when oats were increased to nine quarts. He is disposed to lay on fat. He has been jugged about six miles per day since Jan. 15. He does not seem to itch any or rub himself. Can you tell me what the trouble is?

Any person wishing to bargain for a Bone Col, will be charged with the above mentioned person on reasonable terms, as he has proved himself a good Bone Col, and where he has formerly lived, in New Jersey and Pennsylvania.

## THE FULL BLOODED HORSE

## MESSENGER.

Imported in May, 1788.

MESSENGER is a bay, full fifteen hands three inches high. He was bred by John Pratt, Esq. of New-Market, and was got by Membrino, who covered at twenty-five guineas a mare, in 1784. Membrino was got by Engineer, who was got by Sampson, who was the sire of Bay Malton, and several other capital racers. His Dam by Turf; his grand-dam Regulus. This mare was sister to Pigeante, and was the dam of Leviathan, a capital racer.

MESSENGER won the following big races in the years 1783, 1784, and 1785, as may be seen by the Racing Calendar.

In September, 1783, he beat at Newmarket, Mr. Pomeroy's Cobler, by Start, 100 to 30.

Alfred Mr. Standley's Horse, brother to Straightlegs, 100 to 30.

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And Mr. Roca's Horse Pyrrhus, across the New Flat, 100 to 150.

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April, 1785, he beat Lord Sherborne's Horse Taylor, 100 to 100.

N. B. In addition to the above he has won the Kings's Plate, and which is a valuable prize in the racing world.

Produce to be sold in the racing world.

A Messenger Poster.

In our issue of April 22 we published a copy of a poster of Messenger, which was furnished us by George S. Bailey, V. S., Deering, Me. Above is a reproduction of a fac-simile of another poster, for which we are indebted to Jacob B. Perkins of Cleveland, O. This is certainly a curiosity in its way, and we are sure will prove of much interest to our readers. As is well known Messenger is the fountain-head of the American trotting horse.

Perkins says that the fac-simile which he has in his possession was given him by an old gentleman in New York, who told him that a friend of his had one of the original posters from which this fac-simile was made.

Answer: Evidently your stallion is somewhat out of form and is also suffering from too much fat, especially internally, hence the condition that you describe. Try the following: Epsom salts, three pounds; nit. potash, bi-carb. soda, gentian and coriander seed, powdered, of each one-half pound. Mix and give a tablespoonful in equal parts bran and oats three times a day. In one week carefully give him a quart of raw linseed oil. When the effect has passed off resume the powder, and in ten days repeat the oil if necessary. The powder must be given until you see a change for the better. Good grooming is also very essential to his improvement and regular exercise, and do not overheat him until he is in good condition.

M. C. W.: I have a well-bred stallion I bought about two months ago, shipping him about one hundred miles. After getting him home I noticed a little discharge from the nose which I at first thought might be caused by a cold caught in shipping, and treated him for the same without much effect. I concluded it was more than an ordinary cold, and syringed his nostrils with Tuttle's Elixir, according to directions, but he has slowly grown worse. The discharge is whitish, and there seems to be no offensive odor. It sometimes comes from one nostril and sometimes from both. He has been having from six to eight quarts of oats a day with what good hay he wanted, and lately a little grass. He has had good care and has taken on flesh rapidly, has shed out nicely, and coat is very glossy, feels fairly well. Will you tell me what ails him and suggest a remedy?

Answer: The condition that you describe has a serious look. I should employ the best veterinary in your location and have him make a very careful examination of both nostrils. If he finds nothing of a contagious nature it will relieve your anxiety. Now to effect a prompt and certain cure of the trouble have the frontal sinuses trephined and treated antiseptically for two or three weeks, which will be the most satisfactory ending of a most disagreeable disease. Otherwise it may take a year or longer. He can be treated in the way I suggest without leaving any trace, internal or external.

H. F. S.: I have a very nice mare, sound in every way, only her feet are smaller at the shoe than at the hair. Will you please advise me what to do for such feet, how to shoe them, etc? Would rubber shoes do any good?

Answer: I would advise that you remove her shoes and put on both feet for several days, then have the blacksmith remove all of the superfluous tissue that he can, shorten the feet all they will stand and employ rubber shoes if you wish, but take every measure to improve the condition of her feet by the use of hoof ointment, wet swabs, etc. After she has been cleaned in the morning, have her feet thoroughly washed and apply a little good hoof ointment. Perform the same service at night, with the addition of wet woolen cloths to both feet. You must promote the growth of horn until you have grown two new feet, which will obviate the deformity.

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Answer: With care in feeding and medicinal treatment this trouble can be obviated. Their hay and grain must be slightly dampened with water dealt out very sparingly during the day, but plentifully at night, and give them the following mixture in bran and oats: Powdered bicarb. soda, ginger, charcoal and coriander seed, of each one-half pound; capsicum, three ounces. Mix, and give a tablespoonful three times a day.

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## Track Owners Notice.

MEMPHIS, TENN., March 22, 1902.  
New York, N. Y.:  
Mr. Seth Griffin, 167th Street and River Avenue, New York, N. Y.:  
Dear Sir—Replying to yours with reference to the track you constructed for us at Memphis. Your work was very satisfactory, and the track we believe is in every respect the best in the country.  
Yours truly,  
C. K. G. BILLINGS.

RUFFALO, N. Y., Dec. 5, 1901.  
New York, N. Y.:  
Mr. Seth Griffin, 167th Street and River Avenue, New York, N. Y.:  
My Dear Sir—I have driven over most all of the good tracks in the country, and I do think the track you built at Memphis is the best I ever saw. The turns are perfect and the footing can not be beaten. I wish all the tracks in the Grand Circuit were as good. If they were we would not have so many lame horses.  
Yours respectfully,  
E. F. GREENE.

TO WHOM IT MAY CONCERN.  
COMACK, L. J., Jan. 2, 1902.  
New York, N. Y.:  
This is to certify that I have used the Comack Sense Track Machine made by Mr. Seth Griffin since its invention. It has given me the best satisfaction, and excels all others I have ever seen. I regard Mr. Griffin as an expert workman and track builder.  
Very truly yours,  
L. J. COMACK.

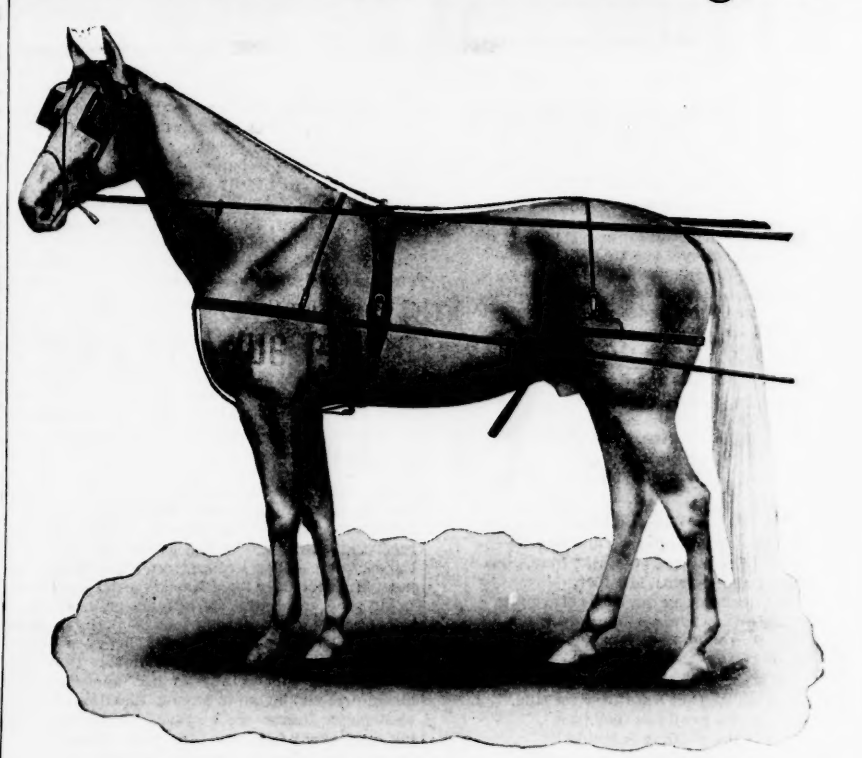
MEMPHIS, TENN., Feb. 19, 1902.  
New York, N. Y.:  
Mr. Seth Griffin, 167th Street and River Avenue, New York, N. Y.:  
Dear Sir—Our track which you constructed grows better every day. The more we use it the better pleased we are with it. We can with pleasure, state that in the opinion of every one who has seen it, as well as ourselves, it is undoubtedly the finest and fastest track ever constructed.  
F. G. JONES, President,  
L. B. McFARLAND, Vice-President,  
MURRAY HOWE, Secretary.

RUSH PARK STOCK FARM, INDEPENDENCE, IOWA, Dec. 3, 1898.  
New York, N. Y.:  
This is to certify that I have used the Comack Sense Track Machine, made by Seth Griffin, for two years, and pronounce it a machine equal to doing the work it is intended to do. I think the best machine made. It runs light, handles easy, and it is indispensable to keep a track in first-class condition.  
C. W. WILLIAMS.

ALSO AFTER USING SAME FOR FIVE YEARS.  
GALESTOWN, ILL., Jan. 28, 1902.  
New York, N. Y.:  
Mr. Seth Griffin, Joliet, Ill.:  
Dear Sir—I have used the track Machine bought of you for five years. During that time it has put the tracks owned or managed by me in condition for nearly all the world's records to be broken over them. It is the only machine I have ever seen worth a dollar.  
Truly yours,  
C. W. WILLIAMS.

For further particulars write  
SETH GRIFFIN,  
167th Street and River Avenue, N. Y. City.

## Just What You Are Looking For



The above cut represents our new No. 128 Custom-Made Folded Track Harness, with our latest improved Ellis Treeless Saddle, Kay Bottom.

Absolutely the Greatest Value Ever Offered.

A strictly hand-sewed, honest-made Harness at a reasonable price, which we guarantee to wear as well as any Harness built, regardless of cost. We have just lately put this style on the market to supply a long-felt want amongst Horsemen. If you are interested write us and we shall take pleasure in sending free to any address, our latest No. 24 Catalogue, containing cuts, descriptions and prices of everything used on or in connection with the horse (many new novelties). Prices lowest consistent with first-class goods. Write at once, addressing department B.